

Synthetic Division

Warm-up: Divide $3x^3 + 2x^2 - x + 3$ by $x - 3$.

Rational Roots Test:

Synthetic Division:

Example 1: Determine whether 1 is a root of $4x^6 - 3x^4 + x^2 + 5$.

Example 2: Use synthetic division to find the quotient and remainder.

$$(4x^3 - 7x^2 - 11x + 5) \div (4x - 5)$$

Example 3: Use synthetic division to find the quotient and remainder.

$$(6x^3 - 16x^2 + 17x - 6) \div (3x - 2)$$

Example 4: Factor the following quadratics.

a. $2x^2 + x - 6$

b. $4x^2 - 19x + 12$

Homework:

"I hate quotations. Tell me what you know." - Ralph Waldo Emerson